

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Currently Amended) An image processing apparatus for subjecting coding image data of a base band or image data, which is coded up to a midstep, to coding processing up to a midstep or to perfect coding processing, comprising:

acquisition means for acquiring previously-executed image coding information as to coding executed to the image data in the past; and

control means for controlling the coding processing up to a midstep or the perfect coding processing of the image data of the base band or the image data coded up to the midstep,

wherein, when a coding picture type is a predetermined picture type, the control means determines whether or not the previously-executed image coding information as to coding is to be used to the coding processing based on the previously-executed image coding information as to the coding acquired by the acquisition means and on a condition as to the coding processing executed to the image data by the image processing apparatus; apparatus, and wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

2. (Canceled).

3. (Currently Amended) An image processing apparatus according to claim

1,

wherein the control means determines whether ~~or not~~ the previously-executed image coding information ~~as to coding~~ is to be used based on ~~whether or not whether~~ the amount of generated code in the decoding described in the previously-executed image coding information ~~as to coding~~ is equal to or less than a predetermined value.

4. (Currently Amended) An image processing apparatus according to claim

1, further comprising:

output means ~~which~~that is supplied with first coding data supplied to ~~another~~by another image processing apparatus that decodes the image data and that is supplied with second coding data created by the coding processing and that outputs the first coding data or the second coding data,

wherein the control means further controls the output means and causes the output means to output the first coding data when the phase of the macro block in the past coding described in the previously-executed image coding information ~~as to coding~~ agrees with the phase of the macro block of the coding processing, the amount of the generated code in the decoding described in the previously-executed image coding information ~~as to coding~~ is equal to or less than the predetermined value, and the position and the magnitude of an image frame in the past coding described in the previously-executed image coding information ~~as to coding~~ agree with those of the coding processing.

5. (Currently Amended) An image processing method of an image processing apparatus for ~~subjecting~~coding image data of a base band or image data, which is coded up to a midstep,~~to coding processing up to a midstep or to perfect coding processing,~~ comprising:

acquiring ~~previously-executed image coding information as to coding executed to the image data in the past;~~ and

determining, when a coding picture type is a predetermined picture type, whether ~~or not the~~ previously-executed image coding information ~~as to coding~~ is to be used to the coding processing based on the previously-executed image coding information ~~as to the coding acquired by the acquisition means and on a condition as to the coding processing executed to the image data by the image processing apparatus.~~

wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

6. (Currently Amended) A recording medium having a program which is ~~recorded on the recording medium, can be read by a computer, is supplied with information as to coding executed to image data in the past, and storing a program that, when executed by a computer,~~ causes the computer to execute coding processing ~~up to a midstep or perfect coding processing~~ of image data of a base band or image data, which is coded up to a midstep,

wherein the program comprises:

a first determination step for determining whether ~~or not~~ a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired previously-executed image coding information as to the coding with a condition as to the coding processing; and

a second determination step for determining whether ~~or not the~~ previously-executed image coding information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the ~~comparison step~~ comparison step, and wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

7. (Canceled)

8. (Currently Amended) An image processing apparatus for transforming image data, comprising:

decoding means for decoding the image data, ~~which is supplied thereto,~~ perfectly or imperfectly; and

coding means for ~~subjecting~~ coding the image data of a base band, ~~which is perfectly decoded by the decoding means,~~ or the image data, which is ~~created by being~~

~~imperfectly decoded by the decoding means and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,~~

wherein the coding means comprises:

acquisition means for acquiring previously-executed image coding information as ~~to coding executed to the image data in the past;~~ and

control means for controlling the coding processing of the image data of the base band or the image data coded up to the midstep, ~~and,~~

wherein the control means determines, when a coding picture type is a predetermined picture type, whether ~~or not the~~ previously-executed image coding information as ~~to coding~~ is to be used to the coding processing based on previously-executed image coding the information as ~~to the coding~~ acquired by the acquisition means and on a condition as to the coding ~~processing~~ processing, and

wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

9. (Currently Amended) An image processing method of an image processing apparatus for transforming image data, comprising:

a decoding step for decoding the image data, ~~which is supplied thereto, perfectly or imperfectly;~~ and

a coding step for subjecting coding the image data of a base band, ~~which is perfectly decoded by processing of the decoding step,~~ or the image data, which is created by

~~being imperfectly decoded by processing of the decoding step and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,~~

wherein the processing at the coding step comprises:

a first determination step for determining whether ~~or not~~ a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired previously-executed image coding information as to the coding with a condition as to the coding processing; and

a second determination step for determining whether ~~or not~~ the previously-executed image coding information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the ~~comparison step~~ comparison step, and

wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

10. (Currently Amended) A recording medium ~~having a program which is recorded on the recording medium, can be read by a computer, and storing a program that, when executed by a computer,~~ causes the computer to execute processing for transforming image data,

wherein the program comprises:

a decoding step for decoding the image data, ~~which is supplied thereto, perfectly or imperfectly;~~ and

a coding step for ~~subjecting~~coding the image data of a base band, ~~which is perfectly decoded by processing of the decoding step, or the image data, which is created by being imperfectly decoded by processing of the decoding step and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,~~

wherein the processing at the coding step comprises:

a first determination step for determining whether ~~or not~~ a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired previously-executed image coding information ~~as to the coding~~ with a condition as to the coding processing; and

a second determination step for determining whether ~~or not~~ the previously-executed image coding information ~~as to the coding~~ is to be used to the coding processing based on a result of comparison of the processing executed at the ~~comparison step~~ comparison step, and

wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

11. (Canceled)

12. (Currently Amended) An image recording apparatus for recording image data, comprising:

decoding means for decoding the image data, ~~which is supplied thereto, perfectly or imperfectly;~~

coding means for ~~subjecting~~coding the image data of a base band, ~~which is perfectly decoded by the decoding means, or the image data, which is created by being imperfectly decoded by the decoding means and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing; and~~

recording control means for controlling the record of the image data coded by the coding means,

wherein the coding means comprises:

acquisition means for acquiring previously-executed image coding information as ~~to coding executed to the image data in the past; and~~

control means for controlling the coding processing of the image data of the base band or the image data coded up to the midstep, and

wherein, when a coding picture type is a predetermined picture type, the control means determines whether ~~or not the~~ previously-executed image coding information as ~~to coding~~ is to be used to the coding processing based on the previously-executed image coding information ~~as to the coding acquired by the acquisition means and on a condition as to the coding processing processing, and~~

wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

13. (Currently Amended) An information recording apparatus according to claim 12,

wherein the recording control means controls recording of the image data coded by the coding means and previously-executed image coding information as-to coding executed to the image data at different positions.

14. (Currently Amended) An image recording method of an image recording apparatus for recording image data, comprising:

a decoding step implemented by decoding means for decoding the image data; ~~which is supplied thereto, perfectly or imperfectly;~~

a coding step implemented by coding step for subjecting coding the image data of a base band, ~~which is perfectly decoded by processing of the decoding step;~~ or the image data, ~~which is created by being imperfectly decoded by processing of the decoding step and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing;~~ and

a recording control step implemented by controlling means for controlling the recording of the image data coded by the processing at the coding step,

wherein the processing at the coding step comprises:

a first determination step for determining whether ~~or not~~ a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired previously-executed image coding information as to the coding with a condition as to the coding processing; and

a second determination step for determining whether ~~or not~~ the previously-executed image coding information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the ~~comparison step~~ comparison step, and wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

15. (Currently Amended) An image reproducing apparatus for reproducing image data, comprising:

reproduction means for reproducing the image data recorded to a predetermined recording medium;

decoding means for decoding the image data reproduced by the reproduction means ~~perfectly or imperfectly~~; and

coding means for ~~subjecting~~ coding the image data of a base band, ~~which is perfectly decoded by the decoding means~~, or the image data, which is ~~created by being~~

~~imperfectly decoded by the decoding means and coded up to a midstep, to coding processing up to a midstep or to perfect coding processing,~~

wherein the coding means comprises:

acquisition means for acquiring previously-executed image coding information as ~~to coding executed to the image data in the past;~~ and

control means for controlling the coding processing of the image data of the base band or the image data coded up to the midstep, and

wherein the control means determines, when a coding picture type is a predetermined picture type, whether ~~or not the~~ previously-executed image coding information as ~~to coding~~ is to be used to the coding processing based on the previously-executed image coding information as ~~to the coding~~ acquired by the acquisition means and on a condition as to the coding ~~processing~~ processing, and

wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.

16. (Currently Amended) An information reproducing method of an information reproducing apparatus for reproducing image data, comprising:

a reproduction step implemented by reproduction means for reproducing the image data recorded to a predetermined recording medium;

a decoding step implemented by decoding means for decoding the image data reproduced by the reproduction means ~~perfectly or imperfectly;~~ and

a coding step implemented by coding means for subjecting coding the image data of a base band, ~~which is perfectly decoded by processing of the decoding step;~~ or the image data, which is created by being imperfectly decoded by the decoding step and coded up to a midstep; to coding processing up to a midstep or to perfect coding processing,

wherein the processing at the coding step comprises:

a first determination step for determining whether ~~or not~~ a coding picture type is a predetermined picture type;

a comparison step for comparing, when it is determined by the processing at the first determination step that the picture type is the predetermined picture type, acquired previously-executed image coding information as to the coding with a condition as to the coding processing; and

a second determination step for determining whether ~~or not~~ the previously-executed image coding information as to the coding is to be used to the coding processing based on a result of comparison of the processing executed at the ~~comparison step~~ comparison step, and

wherein whether the acquired previously-executed image coding information is used is determined based on at least whether the image data is an I-type and whether a phase of a past macro block agrees with that of a phase of a current macro block.